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June 12, 2003

VIA HAND-DELIVERY AND E-MAIL

Mr. Jeffrey Kitsembel
Public Service Commission
P.O. Box 7854
Madison, WI 53707-2854

**Re: Comments on Draft Environmental Impact Statement
Elm Road Generating Station
Docket 05-CE-130**

Dear Mr. Kitsembel:

Enclosed please find the Comments of S.C. Johnson & Son, Inc., on the Draft Environmental Impact Statement for the Elm Road Generating Station. We are also sending a copy of these comments by e-mail to Mr. Michael Thompson, DNR's EIS coordinator for the project.

Sincerely,

WICKWIRE GAVIN, P.C.



Carl A. Sinderbrand

Enclosure

cc: Mr. Michael Thompson
S.C. Johnson & Son, Inc.
Service List (via e-mail)

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**COMMENTS OF S. C. JOHNSON & SON, INC. ON THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE ELM ROAD GENERATING STATION
PSC DOCKET NO. 05-CE-130**

S. C. Johnson & Son, Inc. ("SC Johnson") respectfully submits these comments to the Public Service Commission of Wisconsin ("PSC") and the Department of Natural Resources ("DNR") on their draft environmental impact statement for the proposed Elm Road Generating Station ("ERGS") dated April 2003 (the "DEIS").

SC Johnson is a family-owned and managed Wisconsin corporation whose principal place of business is located at 1525 Howe Street, Racine, Wisconsin. The company has been a Racine-based business since it was founded in 1886 and has grown to be one of the world's leading manufacturers of household cleaning products and products for home storage, personal care and insect control. The company has made a substantial investment in the area that would be directly affected by the ERGS and has a demonstrated historical interest and commitment to the environmental, social and economic health of the affected area.

SUMMARY OF COMMENTS

Wisconsin Electric Power Company and its affiliates (collectively, "WEPCO") have proposed to burden electric ratepayers with a \$4.1 billion capital project that will have significant adverse economic and environmental impacts. The DEIS discloses many of the adverse impacts of WEPCO's proposal but requires substantial revision as a result of its heavy reliance on WEPCO's permit applications, which fail to identify many additional adverse impacts of the ERGS proposal. SC Johnson believes that the revisions that need to be made to the document are so numerous and important, and the gaps in the information provided by WEPCO so material and substantial, that the agencies should allow for a new period of public comment on a revised DEIS prior to publishing the final document. It is also apparent from WEPCO's testimony in the PSC proceeding that WEPCO is changing, or at least considering

changing, particular aspects of its proposal that would affect the assessment of environmental impacts. Such changes provide an additional reason why the agencies should make a revised DEIS, reflecting WEPCO's changes, available for another round of public review and comment.

The chapters of the DEIS that discuss the economics of the proposal examine a number of supply-side and demand-side issues in addressing the need for baseload capacity in Southeastern Wisconsin, and more specifically the reasonableness of the ERGS proposal. While the DEIS analysis is sound in many respects, there are a number of issues that are not sufficiently addressed that could significantly affect the ultimate determination of the need for and reasonableness of the ERGS project. The analyses undertaken in these parts of the DEIS reflect serious efforts to initiate a hard look at the proposal, but still stop short in a number of critical respects from truly exposing the overly optimistic, and often unrealistic, approach taken by WEPCO. In particular, the DEIS base case EGEAS analysis of the ERGS project fails to adjust for a number of unreasonable assumptions developed by WEPCO that serve to bias the study results in favor of the ERGS proposal. In several instances, the DEIS even notes that WEPCO's assumptions are unreasonable, but continues to incorporate such assumptions in the base case analysis instead of substituting more realistic figures. It is important to note that, notwithstanding these deficiencies in the DEIS analysis, the DEIS concludes that the proposed ERGS project is more costly than other alternatives in virtually all of the cases considered.

At minimum, the DEIS base case EGEAS analysis should be updated to reflect more reasonable assumptions for the items that are identified below. When such changes are made, the DEIS-projected significant economic advantage of other supply alternatives over the ERGS proposal will increase and will further support the conclusion that ERGS is neither a least-cost nor cost-effective proposal.

The DEIS's discussion of the environmental impacts of the ERGS is fatally flawed because, like WEPCO's submissions, it fails to analyze the health impacts of the project's high levels of air pollutant emissions. Public health issues cannot be ignored. The DEIS erroneously concludes that the project will meet the National Ambient Air Quality Standard (NAAQS) for particulate matter (PM) because WEPCO's modeling shows no exceedance of the PM₁₀ NAAQS. In 1997, however, the U.S. Environmental Protection Agency determined that the PM₁₀ standard was inadequate to protect the public against the adverse health impacts of PM_{2.5} and, accordingly, supplemented the PM₁₀ standard with a PM_{2.5} standard. The DEIS fails to consider whether the project will cause or contribute to a contravention of the PM_{2.5} NAAQS. The DEIS should be amended to disclose whether and to what extent the project will result in PM_{2.5} impacts in excess of this health-based standard. The DEIS also fails to evaluate the health impacts of the project's hazardous air pollutants, which should be analyzed in a risk assessment using standard EPA methodologies.

The Clean Water Act requires that WEPCO use the Best Technology Available to limit the adverse impacts of the project's non-contact cooling water on Lake Michigan. The ERGS design presumes that WEPCO can use once through cooling for the project and, as a result, intake, heat and discharge approximately 2 billion gallons of Lake Michigan water a day. There has been no comparative demonstration by WEPCO, however, that the largely abandoned technology of once through cooling is the Best Technology Available for this project. The DEIS also fails to evaluate this technology choice against other available, and increasingly preferred, technologies. No discussion is presented as to alternative cooling technologies or whether they would be available to serve the proposed project. The DEIS also fails to adequately assess the

environmental impacts of using and heating 2 billion gallons of lake water per day for the project.

Another adverse impact of the project proposal is the doubling of coal train traffic in Racine County. The DEIS identifies this issue but fails to take the necessary hard look at the adverse local impacts of the coal trains.

COMMENTS ON CHAPTER 2 – COSTS AND FINANCING MECHANISM

The DEIS correctly notes that the leasing arrangements that WEPCO has proposed are more costly to electric customers than a traditional rate-making approach. The DEIS concludes that a traditional rate-making approach would cost ratepayers about 14% less on a present value basis than the WEPCO-proposed leasing mechanism. DEIS at 27. Even this estimate, however, understates the burden that WEPCO's self-serving leasing arrangements would place on electric customers, because the DEIS assumes that, under a traditional rate-making approach, WEPCO should receive a 13.7% after-tax rate of return on its invested capital in the project. DEIS at 26. This is an exceptionally high figure, especially since, under traditional rate-making, the utility bears little financial risk, since all prudently incurred costs are passed along to ratepayers. Considering our economy today, or even over the last decade, it would be difficult to find other opportunities for low-risk investments with an expected after tax rate of return of 13.7%. Additionally, the DEIS recognizes, at page 25, that WEPCO currently receives 12.2% on rate-based recovery on its existing owned generating units, further demonstrating that the DEIS's assumed 13.7% return for the traditional rate-making alternative, against which the leasing arrangements are compared, is too high. Were a lower return-on-equity number used for the traditional rate-making alternative, the advantage to customers of

traditional ownership and rate-making treatment over the leasing arrangements that WEPCO has proposed would be even more apparent.

COMMENTS ON CHAPTER 3 – NEED FOR BASELOAD CAPACITY

The title of this chapter – “Need for Baseload Capacity” – inadvertently places the emphasis on the wrong issue. The question is not so much whether there will ever be a need for new baseload generating units in Wisconsin (at some point, there will be, under any forecasting scenario) but when it would be prudent to make such investments. If optimal planning calls for the construction of peaking units or wind turbines and the implementation of additional energy efficiency measures for the next decade, as the DEIS EGEAS-modeling runs plainly indicate, then the ERGS plan, which frontloads the construction of a \$4.1 billion investment in coal-fired generating units, is imprudent and should not be certificated.

A key factor influencing the need, timing and economic benefits of WEPCO’s proposed ERGS project is the projected growth in peak demand on the Company’s system over the next ten years. While the DEIS notes that WEPCO’s peak demand has increased at a rate of approximately 2.5% per year since 1997, and concludes that WEPCO’s peak demand growth forecast of 2.8% to 3.0% per year over the 2002-2010 period “may be on the high side,” DEIS at 51, the DEIS ultimately uses the Company’s demand forecast for its base case EGEAS economic analysis of the ERGS project. The use of WEPCO’s peak demand growth forecast, rather than a more reasonable forecast that reflects historical growth levels in the demands on WEPCO’s system, unduly favors the ERGS project. The DEIS wisely considered a peak demand sensitivity case that evaluated the impact of using a peak demand growth rate of 2.3% to 2.5% per year over the 2002-2010 period. DEIS at 47. While the lower demand forecast used in the DEIS more closely resembles the recent historical demand growth on WEPCO’s system and therefore

represents a more reasonable growth assumption for the base case analysis of the ERGS, it is important to note that WEPCO's 2002 SEC 10-K states that its system peak demand was lower in 2002 than it was in 2001. The 10-K also states that total energy sales from the WEPCO electric system were lower in 2002 than they were in 2001 and lower in 2001 than they were in 2000. WEPCO has not provided any rational basis for concluding that the demand and energy sales growth on its system over the next ten years will exceed the growth experienced during the economic boom of the late 1990's, particularly when it has experienced decreases in energy and demand growth more recently. The DEIS base case analysis should be modified to replace WEPCO's peak demand and energy growth forecasts with a forecast that more reasonably reflects the historical demand and energy growth of the system.

The discussion of projected increases in WEPCO's peak load (DEIS at 46-48) should be clarified. These projections, even if accurate, have little relevance to determining whether the ERGS is needed or would be cost-effective. Peak demand, which may occur on the one hundred hottest hours of the summer, can be met with relatively inexpensive alternatives such as demand-side management (DSM) or by installing off-the-shelf single cycle combustion turbines that may not be suitable for base load generation but can be a cost-effective way of producing electricity for a few hundred hours a year. The enormously capital-intensive coal-fired plants that have been proposed here can be justified only by secular increases in electricity demand within WEPCO's service territory that require more base load generation. They cannot be justified to meet projected increases in peak load that are highly questionable in light of recent experience and which may occur in only a few hours each year. The discussion of peak load in Chapter 3 should be rewritten to make this clear.

The PSC-certificated Badger Gen project is omitted from Table 3-3 on the theory that it, like certain other independent power product projects, has “been placed on hold because they have been unable to sign contracts with Wisconsin electricity providers and the widespread financial difficulties in the IPP markets.” DEIS at 38 n.32. It should be noted, however, that WEPCO has purchased the land on which this project was to be sited and could seek to pursue it if it chose to do so.

Chapter 3 also suggests that more baseload generating units are needed because such units are prone to frequent and prolonged outages. DEIS at 50-51. We submit that a different inference should be drawn from this premise. First, since large baseload units are prone to frequent and prolonged outages due to the failure of their high pressure boiler components, the analysis of their costs should realistically reflect the lower reliability of such units and the cost of such replacement power when the units are out of service. More realistic consideration of this factor would greatly increase the costs of operating the type of large coal-fired units that comprise the ERGS, making them even less economic than they are portrayed in the DEIS. Second, the frequent outages at large coal-fired units illustrate the unrealistic reliability assumptions that WEPCO and the DEIS have used to analyze the ERGS units. While the DEIS accepts the Company’s forecast that the annual forced outage rate for the ERGS units will be only 2%, history has shown that such units typically operate with forced outage rates of nearly 7% per year. The EGEAS runs should be redone using a more realistic 6% forced outage rate for the ERGS units rather than the unjustifiably low 2% forced outage rate that WEPCO and the DEIS have used to analyze the economics of these units. Using more realistic performance assumptions for the ERGS units in the EGEAS runs will show that these units are even less economic than the DEIS suggests that they would be.

COMMENTS ON CHAPTER 4 – ALTERNATIVES TO THE PROPOSED PROJECT

The DEIS notes that the EGEAS model does not pick a coal unit until 2022 if CO₂ costs are monetized. DEIS at 81. This conclusion illustrates the uneconomic nature of the ERGS proposal, particularly since CO₂ monetization falls well short of a full consideration of all of the social and economic costs resulting from coal-fired generation. On June 5, 2003, WEPCO publicly committed itself to monetizing CO₂ costs, endorsing an important proposal to that effect that CERES – a leading U.S. coalition of environmental, investor, and advocacy groups – has announced and is promoting. See CERES, Electric Power, Investors and Climate Change (June 2003) (www.ceres.org/pdf/ceres_electric_recs.pdf). Since WEPCO has itself endorsed the principle that utilities should be required to monetize CO₂ costs, these costs should be added to the EGEAS base case analysis. The data presented in the DEIS establish that doing so would result in a finding that the ERGS proposal is not cost-effective and cannot be certificated.

A. Energy Efficiency Alternatives

The DEIS recognizes that Wisconsin law requires that energy conservation is to be given the highest priority when evaluating options to supply future electricity needs. DEIS at 53. Although WEPCO's application claims that cost-effective energy efficiency measures cannot obviate the need for the ERGS, the DEIS correctly concludes that WEPCO has failed to substantiate its contention because: (i) there is no basis to verify WEPCO's claim that virtually all cost-effective energy measures are already included in WEPCO's future demand forecasts, and (ii) WEPCO limited its analysis exclusively to the residential sector. DEIS at 56-57. The DEIS concludes that "[a]s a result of these shortcomings, it is likely that the applicant underestimated the availability of additional cost-effective energy efficiency." DEIS at 57.

The DEIS also presents the PSC staff's analysis of energy efficiency alternatives. Significantly, the DEIS notes that – using the 85% market penetration rate that WEPCO itself assumed to be reasonable in its application, see DEIS at 56 – the staff's analysis identifies “an additional 1,000 MW of cost-effective savings by 2011.” DEIS at 58. The DEIS characterizes this analysis as the “Staff's most aggressive scenario” but it does not seem overly aggressive since it merely uses the same market penetration rate that WEPCO itself assumes to be reasonable in its application. Moreover, the DEIS states that there are “several shortcomings” in the Staff's analysis that “likely underestimate the energy efficiency potential.” DEIS at 58. The shortcomings include the failure to consider new technologies and the application of energy efficiency measures in the industrial sector. See DEIS at 58. Accordingly, it is reasonable to consider the 1,000 MW figure as a reasonable estimate of the minimum peak load reduction that could be achieved by 2011 through pursuit of cost-effective energy efficiency measures. This demand reduction must be incorporated in the demand forecast in Chapter 3.

Notwithstanding the DEIS's important finding that WEPCO did not fully consider the potential demand reduction impacts of energy conservation in its peak demand forecast, the DEIS does not include any energy efficiency peak reduction impacts in its base case analysis of the ERGS project. The DEIS base case analysis of the ERGS project should be updated to include a reasonable level of additional energy and demand reduction impacts available from cost-effective energy conservation and load management options.

B. Wind and Natural Gas Alternatives

The EGEAS model runs presented in the DEIS show that wind turbines and natural gas combustion turbines are complementary and, in combination, deliver reliable electricity at a lower economic cost than the coal-fired units that WEPCO has proposed. DEIS at

74. Even with the 250 MW and 1,250 MW wind power limitations placed on the EGEAS model runs, the DEIS concludes that “wind power could be a significant component of an integrated resource alternative that could substitute for all or a portion of the ERGS.” DEIS at 61. This conclusion is highly significant, particularly in light of the statutory preference for the use of renewable resources over fossil fuels. Sec. 1.12, Stats.

Even the DEIS analysis, however, short-changes the advantages of the integrated wind and gas alternative to the ERGS because it (i) assumes that only 20% of the capacity of a wind turbine can be credited towards the reserve margin, see DEIS at 71; (ii) arbitrarily caps the wind turbines at 250 MW or 1,250 MW, see DEIS at 72, 76; (iii) fails to consider the social and economic costs of coal-powered generation, including the adverse land use impacts of the coal trains and the premature mortality and increased morbidity from the air pollution generated by this highly polluting fuel; and (iv) fails to consider hundreds of millions of dollars of costs specific to the ERGS proposal, including \$266 million in electric transmission reinforcement costs, railroad line modifications, potential bluff removal, extension of the intake water structures, the potential capital and operating costs of an alternative to once through cooling, and payments to the local municipality.

The EGEAS model should be re-run relaxing the limitations that discourage wind power. Thus, the model should be run assuming a 25% or, alternatively, a 30% capacity credit for wind power and eliminating the artificial caps on wind power. Additionally, the DEIS assumes no water-based wind power generation on the basis of cost assumptions that are poorly documented and poorly explained. See DEIS at 60. No similar cost data are presented for competing technologies, making it difficult to evaluate the cost data presented on page 60, which also appear to be stated using inapplicable or misstated units of measurement. Water-based wind

power generation, using accurate and realistic cost assumptions, should be added to the options that the EGEAS model may consider, and the cost figures for this technology should be documented and explained. (As a precedent for a water-based wind farm, it should be noted that the Long Island Power Authority has proposed to construct such a facility in the Atlantic Ocean near Long Island. See www.lipower.org/papers/RFP/wind_rfp.html.)

To put the 250 MW and 1,250 MW ceilings on wind power in perspective, it should be noted that wind power has become a mainstream business. A record 6,868 MW of new wind power capacity was installed worldwide in 2002, increasing generating capacity by 28%. See American Wind Energy Association press release March 3, 2003 (available at www.awea.org). Global wind power capacity has quadrupled over the last five years, growing from 7,600 MW at the end of 1997 to more than 31,000 MW at the end of 2002. Id. Installed generating capacity has increased by an average of 32% annually for the last five years (1998-2002). Id. Were this rate of increase to be sustained, worldwide capacity would be 375,000 MW by 2011. The maturation of the industry is illustrated by General Electric Corporation's recent purchase of Enron's wind turbine business. GE expects the operation to generate more than \$1 billion in revenue during 2003 and expand about 20% annually. See "GE's Wind-Power Play May Be Turning Point for Clean Energy," The Courier-Journal, Louisville, KY (May 15, 2003) (AP news story) (available at www.courier-journal.com). A significant increase in global reliance on wind power in the coming years is likely in light of the economics of this resource, which, as the EGEAS model runs presented in the DEIS indicate, is cheaper than coal-fired generation and, when combined with natural gas backup power, supplies a reliable, cleaner and lower cost alternative to coal-fired options.

C. Natural Gas Price Volatility

Electricity customers, such as SC Johnson, have an interest in the price that a utility pays for natural gas to run its generating units because that cost is passed through to the customer. One of the principal arguments marshaled in the DEIS against using natural gas as an alternative to coal is the variability in natural gas prices. See DEIS at 67. The DEIS makes this point by using a simplistic statistical model that purports to show that it is nearly impossible to predict future gas prices because of the historic variability in natural gas prices on the spot market. See id. What principally matters to electric customers, however, is not the extent to which gas prices vary from day-to-day or from season-to-season but the average dollar that the utility pays per Btu over the course of several years, because it is these long-term averages that are relevant to predicting whether fueling new units with natural gas rather than coal will be economically advantageous or disadvantageous over the several decades in which a new unit will be in service.

The DEIS discussion at pages 67-68 appears to exaggerate the importance of the statistical model that is used there. Natural gas prices can be forecasted into the future notwithstanding their season-to-season variability, because long-term trend lines establish a basis for such forecasting. Much of the variation from the general year-to-year trend of U.S. natural gas use (and the resulting variation in natural gas prices) can be attributed to variations in average winter temperatures. For example, the larger than average increase in gas use from 1999 to 2000 was primarily the result of a change from the particularly warm winter weather of 1999-2000 (3,351 heating degree-days or 457 fewer heating degree-days than normal) to the particularly cold winter of 2000-2001 (4,048 heating degree-days or 240 more heating degree-days than normal). The fact that natural gas prices change with the turning of the seasons and

annual variations in temperatures merely establishes that, in using historic price data to predict future prices, the forecaster must consider additional variables that the DEIS has omitted from its statistical model. Price variability per se does not establish, as the discussion in the DEIS would appear to indicate, that it is impossible to forecast long term natural gas price trends or that natural gas is an uneconomic fuel. Historic trends have shown that periods of rapid increases in natural gas prices have inevitably been followed by periods of similarly rapid decreases in prices as the market responds to short-term imbalances between supply and demand for natural gas.

D. Firm Power Purchases

The DEIS concludes that WEPCO has increased its firm power purchases to a level that is near the limit that can be reliably considered, thereby suggesting that additional power purchases are not a viable alternative to supply the capacity need that WEPCO plans to serve from its proposed ERGS units. DEIS at 50. In support of this conclusion, the DEIS provides information on the growth in the level of WEPCO's firm power purchases from approximately 400 MW in 1998 to a forecasted level of slightly over 1600 MW in 2004. DEIS, Figure 3-2, at 33. Yet a closer examination of WEPCO's supply-side plan shows that the Company is forecasting that its firm purchases will decrease sharply from approximately 1,600 MW in 2004 to less than 980 MW by 2008, the year after the first ERGS unit is planned to come on line. See WEPCO Original Application, Enclosure 1, Table 1-4. While there certainly may be reasonable limits on the level of purchased power that WEPCO should consider, the DEIS base case analysis should not simply adopt WEPCO's forecasted sharp decrease in firm purchases that coincidentally correspond with the timing of the forecasted need for the ERGS units. This sharp drop in firm purchase alternatives is particularly questionable given the Company's failure to seek competitive bids for purchased power as an alternative to the

proposed ERGS projects. The DEIS base case EGEAS analysis should be updated to maintain future firm purchases at the 2004 level for at least the first ten years of the analysis. This revision could significantly alter the forecasted base case analysis of the need for and benefits of the ERGS units.

In addition, the DEIS appears to adopt WEPCO's proposal to treat capacity supplied by firm purchases in the same manner as it treats capacity supplied from a generating unit. However, firm purchased power contracts are frequently backed by reserves provided by the seller. Accordingly, WEPCO's analysis of its system capacity requirements may be overstated by ignoring the capacity reserves that are supplied with such firm purchase contracts. The DEIS base case EGEAS analysis should be updated to specifically address this issue in order to ensure that WEPCO has not overstated its reserve requirements and thereby overstated its need for new capacity.

E. Projected Firm Power Sales

The DEIS base case EGEAS analysis incorporates without adjustment WEPCO's firm power sales forecast that includes approximately 500 MW of off-system sales that presently are not under contract. It is unreasonably speculative and improper to include such uncommitted off-system power sales in the base case analysis of the ERGS project, since no such contracts may come into existence and WEPCO's native system retail customers ultimately will be held responsible for the entire investment in the ERGS if such sales do not materialize. Moreover, it appears that WEPCO's firm sales forecast that is used for the DEIS base case analysis includes "options" that have been negotiated by WPPI and certain other publicly owned utilities to purchase firm capacity from the ERGS project. This treatment of unexercised purchase options as firm demand obligations of the WEPCO system is not only overly speculative, but it also

appears to overstate WEPCO's peak demand by including such capacity sales options as an increase in WEPCO's peak demand obligation and as a 100 MW per unit reduction in the generating capacity of the ERGS project. WEPCO's assumptions, as reflected in the DEIS analysis, appear to double count 100 MW per ERGS unit, because they add the additional 100 MW that would be generated by these units to WEPCO's peak load forecast but assume that 100 MW from each unit will not be available to meet that peak load, thereby necessitating construction of yet more reserve capacity on the WEPCO system. The DEIS base case EGEAS analysis should be modified to address this apparent double counting of ERGS capacity options, to remove the speculative off-system sales options included in WEPCO's peak demand forecast, and to remove reserves included for any existing capacity sales that do not provide for reserves.

F. Construction Cost Assumptions for ERGS and Gas-fired Alternatives

The DEIS recognizes that, under WEPCO's proposal, the risk of construction cost over-runs for the ERGS project would be placed on the ratepayers. The DEIS further notes that the Company admits that "because few coal-based facilities have been built recently, the risk that actual costs may deviate from estimated costs is greater for the ERGS facility" DEIS at 14. Notwithstanding these warnings of the risks of construction cost over-runs for the ERGS proposal, the DEIS base case EGEAS analysis uses the Company's base construction cost estimate for the ERGS project. Conversely, the DEIS base case analysis also uses WEPCO's construction cost estimate for natural gas-fired combustion turbine alternatives, even though there have been significant recent reductions in combustion turbine equipment prices due to the downturn in the merchant power industry.

The DEIS base case analysis should be modified to reflect a minimum 10% increase in WEPCO's base construction cost estimate for the ERGS project and to include lower

natural gas combustion turbine equipment costs that reflect current market conditions. A 10% increase in WEPCO's base construction cost estimates would be modest indeed since it is our understanding that WEPCO's contractor (Bechtel) will not even provide a firm cost estimate until the construction is 30% complete, and the proposed leases have WEPCO-drafted exceptions to the porous cost "cap" they incorporate as to make their 10% limit on cost escalation a meaningless façade.

G. ERGS Performance Assumptions

The DEIS base case EGEAS analysis incorporates WEPCO's unreasonably optimistic and unsupported assumptions regarding the operating availability and efficiency of the ERGS units. These optimistic assumptions bias the EGEAS results in favor of the ERGS project. For example, the DEIS does not address the reasonableness of WEPCO's forecasted equivalent availability factor (EAF) (over 90%) and forced outage factor (only 2%) for the ERGS project. These assumptions are extremely optimistic; in comparison the national average forced outage factor for similarly sized coal-fired units is more than 6%. Moreover, the DEIS adopts WEPCO's heat rate (efficiency) assumptions for the ERGS project that are also highly optimistic and unsupported. While the most recent heat rate information published by the Utility Data Institute for existing coal-fired units indicates that no units achieve a heat rate better than 9,035 Btu/kWh, the DEIS base case analysis has used WEPCO's heat rate forecast of 8,850 Btu/kWh for the ERGS project. It is not appropriate to justify \$4.1 billion in investments based on highly optimistic, unrealistic performance assumptions that have not been achieved by any other similar generating unit. The DEIS base case analysis should be modified to incorporate more reasonable availability and efficiency assumptions for the ERGS based on demonstrated performance of similar coal-fired generating units.

H. ERGS Emissions Costs

While the DEIS recognizes that the proposed ERGS units will emit considerable amounts of SO₂, NO_x, mercury and other air pollutants, only the current cost of SO₂ allowances is monetized, and then not even in the base case analysis. Clean air legislation already proposed by both major political parties would impute a market value upon NO_x and mercury and increase the value (determined by anticipated compliance costs) of SO₂ allowances. Due to the fact that emissions from the ERGS would be much higher than gas-fired alternatives, and with the prospect that new legislation could soon be passed that would significantly increase future emissions allowance costs, the DEIS base case analysis of the ERGS should be updated to more reasonably reflect the costs of SO₂, NO_x and mercury emissions.

Monetization of these additional allowance costs, although appropriate, would not fully reflect the social and economic costs of the coal-fired generating units that WEPCO has proposed to build. Even with the additional allowance costs factored into the analysis, the DEIS would continue to understate the true cost of the ERGS proposal, because the allowance costs do not include the social and economic cost of the morbidity and premature mortality associated with the ERGS emissions, the costs associated with the adverse aquatic impacts to Lake Michigan resulting from the ERGS' once through cooling water system, or the costs associated with the adverse land use impacts of the coal trains. These issues are addressed in further detail below.

I. EGEAS Runs

The EGEAS data presented in Table 4-7 of the DEIS demonstrate the uneconomic nature of the ERGS proposal. The PSC staff base case, which contains a number of unrealistic assumptions that, as explained above, appear to bias the analysis in favor of the ERGS, calls for

constructing only one ERGS unit through 2011. The EGEAS runs using the “high gas [price]” scenario, which favors coal-fired generation, also call for constructing only a single ERGS unit through 2011. An increase of coal capital costs by 20% results in the EGEAS model selecting no ERGS units through 2011. CO₂ monetization results in constructing no ERGS units through 2022. DEIS at 81. The final EIS should contain a similar table setting forth the results of the additional EGEAS runs that SC Johnson and other commentators have suggested. Specifically, based on the information that it has been provided to date, SC Johnson requests that the PSC staff include the results of the additional EGEAS runs identified below in the final EIS for the project.

The additional EGEAS scenarios are intended to be conducted as changes to WEPCO’s base case EGEAS runs supporting WEPCO’s direct testimony as filed on May 27, 2003. EGEAS should be run for two cases – (i) ERGS without IGCC and (ii) EGEAS Optimized (with timing and type of capacity additions selected by EGEAS) – for each of the following scenarios. For each scenario, except for modifications specified, all assumptions should reflect WEPCO’s base case EGEAS analysis, as filed on May 27, 2003, in order to maintain comparability of results.

Scenario 1: Demand and Supply-Side Modifications

- a. Peak Demand Obligation
 - Demand Growth – midpoint between WEPCO’s 5/27 base case and low case forecasts, per Table 1 below.
- b. Supply Side Resources
 - Assume wind generation tax credit eligibility extended through 2006
 - Assign 20% capacity credit for wind generation
 - Increase capital cost of SCPC units by 10%

- Increase forecasted heat rates for SCPC units by 3% at all load levels
- Increase forced outage rate for SCPC units to 6%
- Reduce forecasted heat rates for gas-fired combined cycle alternative to reflect 6,820 average heat rate and assumed values at all load levels as reflected in the original application

Scenario 2: Emissions Cost Sensitivity

- a. Model SCPC Emissions at the following rates and based on allowance costs reflected in Table 2 below:

 SO₂ Emission Rate: 0.16 lb/MMBtu (1-SCJ-012)

 NO_x Emission Rate: 0.07 lb/MMBtu (1-SCJ-14)

 Mercury Emission Rate: 2.3×10^{-6} lb/MMBtu (1-SCJ-023)
- b. Model gas-fired combined cycle combustion turbine emissions at the following rates and based on allowance costs reflected in Table 2 below:

 SO₂ Emission Rate: 0.0006 lb/MMBtu (Original Table 1-8)

 NO_x Emission Rate: 0.013 lb/MMBtu (Original Table 1-8)

 Mercury Emission Rate: 2.3×10^{-6} lb/MMBtu (1-SCJ-023)
- c. Model gas-fired simple cycle combustion turbine emissions at the following rates and based on allowance costs reflected in Table 2 below:

 SO₂ Emission Rate: 0.0006 lb/MMBtu (Original Table 1-8)

 NO_x Emission Rate: 0.037 lb/MMBtu (Original Table 1-8)

 Mercury Emission Rate: 2.3×10^{-6} lb/MMBtu (1-SCJ-023)
- d. Incorporate all other changes and revised assumptions as reflected in Scenario 1.

Scenario 3: Sensitivity as to Changing Assumptions as to Retirements of Existing Units

- a. Assume Oak Creek Units 5 and 6 retire after 60 years of operation (instead of in 2012) as reflected in original application.
- b. Incorporate all other changes and revised assumptions as reflected in Scenario 2.

Scenario 4: Low Demand and Energy Growth Sensitivity

- a. Use WEPCO's 5/27 low case peak demand and energy forecasts
- b. Incorporate all other changes and revised assumptions as reflected in Scenario 1.

Scenario 5: Enhanced DSM, Energy Efficiency and Renewable Energy Sensitivity

- a. Use WEPCO's low case peak demand and energy forecasts to reflect enhanced energy efficiency and DSM potential.
- b. Increase capacity credit for Wind Generation to 20%, remove all caps on level of wind generation option and extend production tax credit for Wind Generation through study period.
- c. Incorporate all other changes and revised assumptions as reflected in Scenario 1.

Scenario 6: Gas-fired Combustion Turbine Sensitivity

- a. Reduce WEPCO's forecasts of installed capital costs for gas-fired combined cycle and simple cycle combustion turbines by \$75/kW.
- b. Decrease annual forced outage rate assumptions for gas-fired combined cycle and simple cycle combustion turbines to 3%.
- c. Reduce Scenario 1's heat rate estimates for gas-fired combined cycle and simple cycle alternatives by 3%.
- d. Incorporate all other changes and revised assumptions as reflected in Scenario 1.

Scenario 7: High Coal Price Sensitivity

- a. Use WEPCO's high coal price sensitivity
- b. Incorporate all other changes and revised assumptions as reflected in Scenario 1.

Table 1**Scenario 1 Peak Demand and Energy Forecast**

Year	Peak Demand (MW)	Growth	Annual Energy (GWh)	Growth
2003	5,912		31,771	
2004	6,115	3.4%	32,694	2.9%
2005	6,232	1.9%	33,163	1.4%
2006	6,376	2.3%	33,782	1.9%
2007	6,567	3.0%	34,511	2.2%
2008	6,734	2.6%	35,438	2.7%
2009	6,970	3.5%	36,397	2.7%
2010	7,126	2.2%	37,284	2.4%
2011	7,299	2.4%	37,979	1.9%
2012	7,446	2.0%	38,825	2.2%
2013	7,602	2.1%	39,499	1.7%
2014	7,763	2.1%	40,187	1.7%
2015	7,928	2.1%	40,888	1.7%
2016	8,096	2.1%	41,604	1.7%
2017	8,268	2.1%	42,333	1.8%
2018	8,444	2.1%	43,078	1.8%
2019	8,624	2.1%	43,837	1.8%
2020	8,808	2.1%	44,612	1.8%
2021	8,976	1.9%	43,207	-3.1%
2022	9,168	2.1%	44,013	1.9%
2023	9,364	2.1%	44,836	1.9%
2024	9,564	2.1%	45,675	1.9%
2025	9,770	2.2%	46,530	1.9%
2026	9,980	2.1%	45,783	-1.6%
2027	9,894	-0.9%	46,673	1.9%
2028	10,113	2.2%	47,597	2.0%
2029	10,338	2.2%	48,508	1.9%
2030	10,567	2.2%	49,454	1.9%
2031	10,802	2.2%	50,419	2.0%
2003-2011		2.7%		2.3%
2003-2020		2.4%		2.0%
2003-2031		2.2%		1.7%

Table 2**Scenario 2 Emissions Allowance Cost Estimates**Source: http://www.epa.gov/air/clearskies/tech_sectionc.pdf

	SO2 \$/ton	Nox \$/ton	Mercury \$/ounce
2002	\$200		
2003	\$200		
2004	\$200		
2005	\$200		
2006	\$200		
2007	\$200		
2008	\$200		
2009	\$200		
2010	\$700	\$1,425	\$550
2011	\$740	\$1,417	\$580
2012	\$780	\$1,409	\$610
2013	\$820	\$1,400	\$640
2014	\$860	\$1,388	\$670
2015	\$900	\$1,375	\$700
2016	\$960	\$1,488	\$740
2017	\$1,020	\$1,600	\$780
2018	\$1,080	\$1,658	\$820
2019	\$1,140	\$1,716	\$860
2020	\$1,200	\$1,775	\$900
2021	\$1,280	\$1,820	\$950
2022	\$1,360	\$1,865	\$1,000
2023	\$1,440	\$1,910	\$1,050
2024	\$1,520	\$1,955	\$1,100
2025	\$1,600	\$2,000	\$1,150
2026	\$1,700	\$2,045	\$1,210
2027	\$1,800	\$2,090	\$1,270
2028	\$1,900	\$2,135	\$1,330
2029	\$2,000	\$2,180	\$1,390
2030	\$2,100	\$2,225	\$1,450
2031	\$2,220	\$2,270	\$1,520
2032	\$2,340	\$2,315	\$1,590
2033	\$2,460	\$2,360	\$1,660
2034	\$2,580	\$2,405	\$1,730
2035	\$2,700	\$2,450	\$1,800

COMMENTS ON CHAPTER 5 – FUEL DIVERSITY PERSPECTIVES

The DEIS discloses that 69% of the energy consumed by WEPCO's electricity customers is produced by coal-fired generation. DEIS at 34, Figure 3-4. Nuclear energy supplies another 27.5%. Id. Natural gas is used to generate only 3.3% of the electricity that WEPCO sells, and renewable energy is used to generate only 0.1% of WEPCO's electricity. Id. It is these statistics that need to be kept in mind when considering whether the proposal to build more coal-fired power plants in Wisconsin would contribute to the "fuel diversity" that WEPCO has said that it wants to promote.

The first sentence in the section of the DEIS discussing the "reliability" of natural gas states that "Wisconsin has no indigenous supplies of natural gas." DEIS at 84. A similar comment could be made about coal, as well, since WEPCO has proposed to power the ERGS by burning out-of-state Pennsylvania coal. Although the DEIS focuses on the fact that natural gas must be imported to Wisconsin, the equally pertinent facts as to the extent to which the ERGS must rely upon out-of-state coal are omitted. There is potential for disruptions in the supply of coal due to transportation problems, strikes and other factors, just as there is potential for a reduction in the supply of natural gas. If reliance upon out-of-state fossil fuels is undesirable, as the DEIS implies, the logical conclusion is not to use coal instead of natural gas but to rely upon renewable energies such as wind and energy efficiency measures to reduce electricity demand.

The discussion on page 88 mixes data on new gas-fired electric generation nameplate capacity with statements about increased use of natural gas for electricity generation. The discussion could be improved by noting that coal-fired units typically have much higher annual capacity factors (i.e., utilization levels) than single cycle gas-fired combustion turbines, which are often used as peaking units. Moreover, new gas-fired combined cycle generating units are approximately 30% more efficient than existing gas-fired generation that these units

displace and, therefore, consume less fuel per megawatt-hour produced. Accordingly, future energy consumption trends for coal and gas will not match the trend line that would be established simply by comparing the nameplate generating capacity data for 2000 and 2003 presented in Figures 5-3 and 5-4. For example, according to data published by the Energy Information Administration, less natural gas was consumed for electricity generation in the United States in 2001 than in 2000. See EIS Annual Energy Review 2001 Table 8.3a (www.eia.doe.gov/emeu/aer). Energy use data for 2002 are not yet available.

The discussion on pages 89-90 of the DEIS suggests that gas-fired electric generating units are less reliable than coal-fired units because gas-fired units must cease operating in the event of an interruption in gas availability, if the gas-fired unit is relying on interruptible interstate transmission capacity. No data are presented, however, as to how often gas-fired units are taken off-line as a result of an interruption in gas supply availability. Moreover, the DEIS provides no discussion of the reduction in supply curtailments that can be achieved for gas-fired power plants by adding fuel oil backup capability. Nor are any data presented as to forced outages at coal-fired power plants. Published historical outage data for coal-fired and combustion turbine gas-fired units indicate that combustion turbine gas-fired units are at least as reliable, if not more reliable, than coal-fired units. Historic forced outage data for gas-fired and coal-fired units should be presented in the final EIS before any conclusion is reached that gas-fired units are less reliable than their coal-fired counterparts.

COMMENTS ON CHAPTER 6 – OVERVIEW OF PROPOSED SITES AND TECHNOLOGIES

A. Alternatives Analysis

The DEIS – no doubt accurately – describes the site selection criteria that WEPCO used to arrive at a proposed site for the ERGS. DEIS at 97. According to the DEIS,

WEPCO's siting criteria required the site to have access to the massive amounts of cooling water needed for once through cooling and screened out sites that are not well suited for the delivery of coal. DEIS at 97-98.

Notably, WEPCO did not use siting criteria aimed at minimizing the adverse environmental impacts of the project. No sites suitable for natural gas units were considered. No sites suitable for cooling water technology that would have less adverse impacts on Lake Michigan were considered. No effort was made to seek to locate the new plant outside of Wisconsin's severe ozone nonattainment area. Nor was consideration given to the fact that the neighborhoods near the existing Oak Creek Power Plant are already burdened by the very high emissions of WEPCO's existing coal-fired generating units at that site. No thought was given to seeking to choose a site that might involve less earth moving or wetland filling than the Oak Creek site. WEPCO also did not consider any sites that might be suitable for two SCPC units without the IGCC.

The DEIS telescopes the site selection process so as to leave the reader with the impression that WEPCO's siting criteria led it to propose multiple locations for the proposed ERGS units on the grounds of the Oak Creek Power Plant site. The contrary is true. WEPCO's idea of proposing as "alternatives" different configurations of the coal-fired ERGS units at the Oak Creek Power Plant site was a mere afterthought on WEPCO's part as a result of the Commission's determination that WEPCO's initial application was incomplete due to its failure to comply with the legal requirement that it consider more than one site. Instead of coming up with a bona fide alternative to its preferred site for the project, WEPCO merely rearranged the location of the ERGS units within the existing Oak Creek Power Plant site and deemed these new configurations "alternatives."

The inadequate alternatives analysis in the DEIS falls short of the alternatives analysis that is required for the PSC to certificate the project. In order to grant a Certificate of Public Convenience and Necessity, the statute requires a determination that, among other things, “[t]he design and location [of the proposed facility] is in the public interest considering alternative sources [of fuel] supply, alternative locations . . . engineering, economic, safety, reliability and environmental factors” Sec. 196.491(3)(d)3, Stats. The PSC regulations provide that an application for a large electric generating facility cannot be deemed complete unless and until it contains detailed information about, among other things the “alternative sources of [fuel] supply considered, including . . . any alternative whose energy source has a higher priority ranking under the [State Energy Policy] than the fuel proposed to [be] used for the facility . . . [and] at least two proposed sites for the proposed facility” § PSC 111.53(1)(d) & (e), Wis. Admin. Code.

The alternatives analysis in the DEIS also falls short of the evaluation required by the Wisconsin Environmental Policy Act (“WEPA”). According to DNR’s WEPA regulations, an EIS shall include “[a]n evaluation of the alternatives to the proposal, including a rigorous exploration and objective evaluation of the environmental impacts of all reasonable alternatives, particularly those that might avoid all or some of the adverse environmental effects of the proposed action.” § NR 150.22(2)(e), Wis. Admin. Code (emphasis added). The term “alternatives” is defined as “other actions or activities which may be reasonably available to achieve the same or altered purpose of the proposed action including the alternative of no action.” § NR 150.02(2), Wis. Admin. Code. The PSC’s WEPA regulations similarly require that the EIS include an “evaluation of the reasonable alternatives to the proposed action and significant environmental consequences of the alternatives, including those alternatives that

could avoid some or all of the proposed action's adverse environmental effects and the alternative of taking no action." § PSC 4.30(3)(c), Wis. Admin. Code.

Here, instead of requiring WEPCO to submit detailed information on at least one additional location somewhere in its service area where it might meet its projected increased generation needs, the agencies have prepared a DEIS that limits its analysis of alternative locations to a single site. The various "alternative" locations within that site are no more than a fig leaf to hide the fact that WEPCO, and the DEIS, have only considered one site. Indeed, the caption of DEIS Figure 6-2, on page 100 of the DEIS, correctly demarcates the area that encompasses the alternative configurations of the project units as the "existing OCPP site."

The "alternatives" are all nearly identical to each other, since they would use the same rail line to transport coal to the site and the major coal pile required for both "alternatives" would be in the same location at the site. The "alternatives" would use the same transmission line interconnects, and would use either the same breakwater structures and expanded electrical switchyard facilities or simply move these to a different part of the site. The "alternatives" presented in the application would burden the same area with the same significant air emissions from the coal-fired units and would have the same adverse aquatic impacts on Lake Michigan, since each "alternative" would withdraw the same volume of water from the Lake and discharge the same volume of water from the site.

The rationale for the decision to limit the analysis to a single site is the agency's deference to WEPCO's siting criteria, which excluded all sites that are not suitable to coal or a technology other than once through cooling. WEPCO's self-serving siting criteria, however, are not the priorities that should govern the preparation of the DEIS for WEPCO's project. The State Energy Policy enacted by the Legislature and codified by statute into Wisconsin law

establishes “priorities” that place WEPCO’s choice of fuel – high sulfur bituminous coal – dead last in the hierarchy of options for generating energy in Wisconsin. The Policy enjoins all state agencies to design all new energy projects in accordance with the Legislature’s statutory priorities to the “greatest extent cost-effective and technically feasible.” Sec. 1.12(5)(b), Stats. By allowing WEPCO to first select coal as the preferred fuel for its project (and allowing WEPCO to rule out sites that cannot accommodate each of the three coal-fired units, the last of which would not even be built for ten years) and then presenting in the DEIS only those “alternatives” that WEPCO believes to be appropriate for three coal-fired units, the PSC has erroneously allowed WEPCO’s fuel preference – rather than the Legislature’s fuel preference codified into law – to dictate the range of site alternatives that should be considered in the DEIS. The agencies have, in effect, delegated the choice of the location, size and fuel type of WEPCO’s project to WEPCO itself, by allowing WEPCO to circumscribe the range of considered alternatives to different configurations of coal-fired units at the site of the existing Oak Creek Power Plant.

Even if the DEIS were to be limited only to sites that are suitable to coal-fired generation, the DEIS does not identify or analyze any other site other than the Oak Creek Power Plant site. The impacts at a different site could be substantially different, because there are particular characteristics of the Oak Creek Power Plant site that make it poorly suited to the ERGS project. The Oak Creek Power Plant site is located in a severe nonattainment area and adjacent to neighborhoods that are already burdened by the adverse air quality impacts of WEPCO’s existing coal-fired generating units at the site. The Oak Creek Power Plant site also suffers from peculiarities of topography that have caused WEPCO to propose what may well be the largest earth moving project ever conceived of in the State. The site is on Lake Michigan,

resulting in adverse ecological impacts from the construction work that WEPCO has proposed and the use of lake water for the units' cooling water system. Alternative sites might suffer from fewer of these disadvantages, or use different rail lines, and thus have less adverse train-related impacts. Since the DEIS does not present information about any alternative sites, however, the data that should have been gathered to allow the agencies to determine whether the Oak Creek Power Plant site is the best location for the project simply are not available. This is a key deficiency in the DEIS.

An analysis of alternative sites is important for the additional reason that locating the ERGS at the Oak Creek Power Plant site burdens the project with more than \$266 million in incremental transmission costs – costs that the DEIS has excluded from the EGEAS modeling runs altogether. DEIS at 18, 129-31. The DEIS is deficient in not presenting any information as to whether using an alternative site could have avoided these costs.

B. Synergy with the Oak Creek Power Plant

There is a suggestion in the DEIS that the ERGS would share the same “coal-handling equipment” as the Oak Creek Power Plant. DEIS at 98. This statement appears to be inaccurate. Since the ERGS is expected to use bituminous coal from Pennsylvania and the existing Oak Creek Power Plant units use Powder River Basin coal, the two plants are expected to have separate coal piles and use different coal-handling equipment. The site plan drawings that WEPCO has submitted with its application confirm that this is the case. Accordingly, locating the ERGS at the Oak Creek Power Plant site does not result in significant savings. This conclusion is consistent with the earlier discussion as to the significant (\$266 million) incremental transmission costs associated with siting the ERGS units at Oak Creek.

C. Commercial Wallboard Plant

The DEIS mentions WEPCO's aspiration to bring a commercial wallboard plant to the Oak Creek Power Plant site. DEIS at 117. The DEIS neither analyzes the potential environmental impacts of such a plant or the commercial feasibility of the proposal. No credible evidence exists that the project will ever come to fruition. It appears to have been forwarded by WEPCO simply to divert attention from the massive amount of solid waste that the ERGS will produce as a result of the use of coal, which is a high ash fuel.

COMMENTS ON CHAPTER 7 – AIR EMISSIONS

The DEIS states that “the DNR must still conduct its own air quality modeling analysis in order to determine if the project is permissible, and if so, under what circumstances and conditions.” DEIS at 133. SC Johnson strongly agrees with this statement. We nevertheless present below a number of criticisms of the air quality modeling, and other air-related issues, in the DEIS, and request that these issues be addressed in the final EIS and in the analysis that the DNR must complete to evaluate WEPCO's application for air permits. In virtually all cases, the deficiencies in the DEIS on air-related issues can be traced directly to the deficiencies in WEPCO's air permit and CPCN applications.

The WEPCO air permit application is flawed in a very fundamental way because it fails to analyze the health impacts of the air pollution from the new coal-fired units. To our knowledge, neither the PSC nor DNR has requested this extremely important information as part of the CPCN or other permit applications, or to assist in their preparation of the EIS. By failing to evaluate whether WEPCO's project would endanger public health, the DEIS does not provide the public and the agencies with essential information about the project's impacts that must be considered prior to issuing any project-related permits or approvals.

PSC and DNR should require WEPCO to provide the necessary additional data and information so that the DEIS can be supplemented with an analysis of the health impacts of the new coal-fired generating units that WEPCO proposes to build at the Oak Creek Power Plant site. The health analysis should consider both (i) the impacts of the new units on a stand alone basis and (ii) the cumulative health impacts of the new units and the air pollution from the existing coal-fired units at the Oak Creek Power Plant.

If WEPCO's project proposal were to be approved, the residential neighborhoods near the Power Plant would be subjected to the cumulative air pollution from the existing and new coal-fired units. If these cumulative impacts exceed health-based standards, WEPCO must be required to locate its proposed new units elsewhere, use a less polluting fuel, or implement substantially more effective pollution reduction and control measures.

WEPCO has failed to provide the necessary underlying information to allow the draft EIS to evaluate health impacts of the ERGS' air emissions. It is essential that the information be obtained and that the DEIS be revised and then subjected to another round of public comment after the supplemental analyses are performed and prior to finalization of the final EIS. This is necessary to give the public the opportunity, to which it is legally entitled, to comment on the agencies' full analysis of health impacts for the proposed project.

A. Fine Particulates (PM_{2.5})

Of particular concern is the failure of WEPCO (and thus the DEIS) to even address the severe adverse health impacts of fine particulates – known as PM_{2.5} – from the proposed new coal-fired units. EPA promulgated a NAAQS for PM_{2.5} six years ago, in 1997. In setting the standard, EPA concluded that exposure to PM_{2.5} at the ambient concentrations that presently exist in some areas of the country – including those in compliance with the NAAQS for

PM₁₀ – can result in serious health consequences, including premature mortality, exacerbation of respiratory and cardiovascular disease, decreased lung function, increased respiratory symptoms from pre-existing pulmonary disease, and aggravation of symptoms associated with asthma. See EPA, National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38652, 38656 (July 18, 1997). More recent studies published in peer-reviewed scientific journals, including the Journal of the American Medical Association, confirm these findings and conclude that exposure to combustion-related PM_{2.5} air pollution is also an important environmental risk factor for cardiopulmonary and lung cancer mortality. See Pope, *et al.*, “Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution,” J. Am. Med. Assoc. 287:1132-41 (March 6, 2002). This pollutant cannot be ignored by either WEPCO or the draft EIS.

DNR’s PM_{2.5} monitoring network has been operating statewide since 1999. DEIS at 135. None of these data is presented in the DEIS. Nor is there any information as to whether the cumulative impact of the ERGS and the existing Oak Creek Power Plant generating units will result in exceedances of the PM_{2.5} NAAQS in light of these background data. This is a critical flaw in the DEIS that must be corrected.

WEPCO has inexplicably failed to provide any analysis of the PM_{2.5} emissions of the proposed new coal-fired units or the existing units at the Oak Creek Power Plant. Consequently, the DEIS does not address this major concern. The DEIS must be supplemented so that it will analyze (i) the local and regional impacts of the new coal-fired units on ambient PM_{2.5} levels; (ii) whether these impacts will cause or contribute to a contravention of the National Ambient Air Quality Standard for PM_{2.5}; and (iii) the cumulative health impact of the

PM_{2.5} emissions from the new coal-fired units and the existing units at the Oak Creek Power Plant.

Instead of considering PM_{2.5} impacts, the DEIS addresses the only particulate matter analysis that WEPCO has provided to date and presents the ambient air quality impacts of the PM₁₀ emissions from the new coal-fired units and compares them to the National Ambient Air Quality Standard for PM₁₀. This approach is inadequate because the reason that EPA set the more stringent standard for fine particulates six years ago was that it determined that the PM₁₀ standard does not adequately protect human health from the mortality and morbidity impacts of PM_{2.5}. Since the EPA has concluded that the PM₁₀ standard is inadequate to protect human health, the draft EIS will remain deficient if it perpetuates WEPCO's shortcoming by relying upon the PM₁₀ standard as the only point of reference for analyzing the project's particulate matter impacts.

The DEIS also errs in implying that PM_{2.5} is caused exclusively by the reaction of gaseous pollutants in the atmosphere. DEIS at 134. These types of reactions are indeed a significant source of ambient PM_{2.5}. In addition, however, coal-fired power plants such as the ERGS emit substantial quantities of PM_{2.5} directly. Due to the filter fabric used to reduce the ERGS' particulate matter emissions, most of the ERGS' PM₁₀ emissions are condensable particulates that fall within the PM_{2.5} particle size. Accordingly, the ERGS is likely to directly emit more than 1000 tons of PM_{2.5} per year into the local atmosphere, not including the type of additional atmospheric formation of PM_{2.5} to which the DEIS alludes. See DEIS Table 7-9.

B. Hazardous Air Pollutants

The draft EIS, at page 173, reveals that the new coal-fired units will spew into the air, each year, more than 203 tons – more than 406,000 lbs – of a suite of metals and other

chemicals, including mercury, chromium and arsenic, that are regulated as Hazardous Air Pollutants. The draft EIS does not provide any assessment of the risks that emissions of these pollutants may present to the health of those who live in the neighborhoods surrounding the plant, or in the region. As with PM_{2.5}, it is critically important that the draft EIS be supplemented to assess the health risks of these pollutants and the cumulative impacts of the existing coal-fired generating units at the Oak Creek Power Plant.

The multi-pathway risk assessment that needs to be undertaken here should look at both cancer risks and non-cancer toxicity. In addition to examining the inhalation risks imposed on those who live near the power plant, the risk assessment should examine the health risks from the deposition of these pollutants on the ground and in Lake Michigan and other local water bodies.

The single largest source of human-made mercury pollution in America is coal-fired power plants. People are exposed to mercury primarily through eating fish that have been contaminated when mercury from power plants and other sources is deposited to water bodies. Once mercury enters water, biological processes can transform it into methylmercury, a highly toxic form of mercury that builds up in animal and human tissues. Additional exposure pathways include direct inhalation and the consumption of crops, milk and meat that have been contaminated by mercury that falls on farmland. Exposure to mercury has been associated with both neurological and developmental damage in humans. The developing fetus is highly sensitive to mercury's effects, which include damage to nervous system development.

The Oak Creek Power Plant is already one of the largest sources of mercury emissions in the State of Wisconsin. The ERGS would more than double the mercury emissions at Oak Creek, and the final EIS must carefully evaluate the ERGS' adverse mercury impacts.

The seriousness of the issue is illustrated by the EPA's finding, on December 14, 2000, that mercury emissions from coal-fired power plants pose significant hazards to public health and must be reduced. See 65 Fed. Reg. 79825 (Dec. 20, 2000). Instead of reducing mercury emissions in Wisconsin, the ERGS would increase them.

In addition to evaluating mercury impacts, the DEIS should also examine the project's other toxic air pollutants, including arsenic and chromium. Although the DEIS makes reference to the "virgin fossil fuel" exemption in the State's air toxics regulations, see DEIS at 150, the ERGS units will not be able to take advantage of this exemption because WEPCO plans to burn previously landfilled ash, as well as coal, and reclaimed ash is not a virgin fossil fuel. More fundamentally, the health issues created by the ERGS' emission of large quantities of hazardous air pollutants must be examined irrespective of whether the units fall under the cited exemption.

C. Coal Dust

Another significant gap in the information provided by WEPCO and a flaw perpetuated in the draft EIS is its failure to identify and evaluate the impacts of the coal dust that will be generated by the massive coal-handling operations associated with the new coal-fired units, which are expected to burn more than 10,000 tons of coal daily. It is unclear whether the DEIS includes any modeling of the adverse impact of the coal dust on local air quality or considers the impact of the dust on WEPCO's employees or local residents. These impacts could be very significant. The DEIS (at page 300) identifies this issue but fails to take the requisite hard look at it.

D. Nonattainment New Source Review Requirements

The very brief discussion of nonattainment new source review requirements on page 142 of the DEIS purports to summarize these requirements. The DEIS summary, however, is materially deficient in ways that illustrate the importance of the health issues that the DEIS fails to analyze.

Oak Creek is located in a severe nonattainment area for ozone that is comprised of six counties in southeastern Wisconsin (Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha). Exposure to ozone, one of the principal components of smog, can reduce lung function, cause asthma attacks, and, with frequent exposure, cause permanent lung damage. The proposed coal-fired units would emit volatile organic compounds (VOC) above the severe nonattainment area significance threshold of 25 tons per year. See § NR 408.02(21)(a)1.d, Wis. Admin. Code. Because WEPCO has proposed to locate a significant new source of VOC emissions in a nonattainment area, it is required to obtain a permit from the DNR under section 173 of the Clean Air Act.

Although the DEIS purports to summarize the requirements of a section 173 permit, it omits any mention of the three permit requirements outlined below.

1. WEPCO Must Present an Alternatives Analysis that Demonstrates That The Benefits of the ERGS “Significantly Outweigh” the Environmental and Social Costs Imposed as a Result of its Location.

Section 173(a)(5) of the Clean Air Act requires the permitting agency to determine that “an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.” Although the Wisconsin air regulations contain the same

requirement, see § NR 408.08(2), Wis. Admin. Code, the DEIS omits any mention of the provision.

This permitting requirement mandates an assessment of the “environmental and social costs” of the ERGS proposal, including (i) the mortality and morbidity burden associated with WEPCO’s proposed use of supercritical pulverized coal (SCPC) technology and resulting changes in ambient concentrations of PM_{2.5} and other air pollutants and (ii) the traffic and other adverse impacts of the increase in the number of coal trains that will traverse Racine County to deliver coal to the new generating units. The DEIS – like WEPCO’s air permit application – is deficient in not assessing these environmental and social costs.

This permitting requirement also mandates “an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source.” As explained above, there is no bona fide analysis of “alternative sites” in the DEIS, or in WEPCO’s air permit application. Moving the three coal-fired units around the Oak Creek Power Plant site does not meet the requirement to consider “alternative sites” under the Clean Air Act. Nor does the DEIS consider in an adequate way alternative “sizes, production processes, . . . [or] environmental control techniques” to the ERGS proposal, as there is little in the way of an environmental assessment of the relative air quality advantages of the numerous feasible alternatives to the ERGS project.

Finally, this requirement mandates that WEPCO demonstrate through the foregoing (omitted) alternatives analysis that the benefits of the proposed project “significantly outweigh” its environmental and social costs. Since the air permit application and the DEIS contain neither an adequate alternatives analysis nor an assessment of the environmental and

social costs of the ERGS, there is no basis to make this finding on the information that WEPCO has provided to date.

2. To Obtain the Nonattainment Permit, WEPCO Is Also Required To Demonstrate That Its Wisconsin Facilities Are In Compliance, Or Are On a Schedule to Come Into Compliance, With All Applicable Clean Air Act Emission Limitations and Standards.

Section 173(a)(3) of the Clean Air Act states that “the owner or operator of the proposed new or modified source [must] . . . demonstrate[] that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in such State are subject to emission limitations and are in compliance, or on a schedule for compliance with all applicable emission limitations and standards under [the Clean Air Act].” The Wisconsin regulations contain a similar requirement, but add that the applicant must also establish that all of its sources are in compliance with Wisconsin’s air regulations. See § NR 408.08(1), Wis. Admin. Code. The DEIS discussion of nonattainment new source review permitting neglects to mention these requirements.

On April 29, 2003, the United States Attorney’s Office, on behalf of EPA, commenced a civil action in the U.S. District Court for the Eastern District of Wisconsin alleging that the Oak Creek Power Plant and WEPCO’s other major power plants in the State are operating in violation of numerous Clean Air Act requirements and, as a result, are unlawfully emitting tens of thousands of tons of pollutants each year into the air. In light of this civil action, WEPCO’s unsubstantiated assertion that its power plants are in compliance, contained in a pro forma statement in its air permit application, cannot be credited. Indeed, WEPCO has not even attempted to demonstrate that its existing plants are in compliance with the Clean Air Act in any document that has been made available to the parties to this proceeding or the public.

It should be noted that WEPCO has negotiated a proposed consent decree with the EPA, and this document has been lodged with the federal court. The EPA, however, has reserved any final decision as to whether it will request the court to enter the proposed consent decree, pending its consideration of the public comments that it has solicited on the proposed settlement by notice published in the Federal Register on May 15, 2003. See 68 Fed. Reg. 26,354. Even if the EPA were to decide to request that the court approve and enter the proposed consent decree, there is no guarantee that the court would do so. Accordingly, we believe that, at least at this time, there is no basis to conclude that WEPCO's in-State power plants are "on a schedule for compliance with all applicable emission limitations and standards" of the Clean Air Act as implemented in Wisconsin by the DNR, as no such enforceable schedule with DNR concurrence exists at this time to resolve the serious allegations made in the EPA's federal court action. Until this matter is fully resolved at all levels, WEPCO's air permit application cannot be considered complete.

3. To Obtain the Nonattainment New Source Review Permit, WEPCO Is Also Required To Demonstrate That The ERGS Will Comply With The Lowest Achievable Emission Rate (LAER) for VOC Emissions.

WEPCO must show that the proposed source will comply with the LAER requirement for the project's VOC emissions. The SCPC units do not meet LAER requirements because this technology for producing electricity from coal has higher VOC emissions than the IGCC technology that WEPCO has included in the ERGS proposal. See DEIS Table 7-9 at page 155. WEPCO cannot claim that the lower emissions associated with the IGCC technology are not "achievable" in light of WEPCO's determination to apply for a Certificate of Public Convenience and Necessity for the IGCC unit as part of this project.

E. State Air Permitting Regulations

The DEIS also summarizes the State's air permitting regulations. See DEIS at 168. The discussion is deficient because it omits applicable regulations that WEPCO also failed to address in its air permit application.

According to DNR's regulations, "[n]o person may cause, allow or permit particulate matter to be emitted into the ambient air which substantially contributes to exceeding of an air standard, or creates air pollution." § NR 415.03, Wis. Admin. Code. Similarly, "[n]o person may cause, allow or permit emission of sulfur or sulfur compounds into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution." § NR 417.03, Wis. Admin. Code. Identical language is used for NO_x (§ NR 428.03) and organic compounds (§ NR 419.03(1)). The regulations define "air pollution" as "the presence in the atmosphere of one or more air contaminants in such quantities and of such duration as is or tends to be injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life or property." § NR 400.02(16), Wis. Admin. Code.

Accordingly, it is clear that Wisconsin's air permitting regulations prohibit "air pollution," a term that is defined by reference to adverse health impacts. As noted above, however, the DEIS, like WEPCO's air permit application, fails to address the mortality or morbidity impacts of the new coal-fired units. As previously noted, there is no discussion of the PM_{2.5} impacts of the units and no risk assessment of the impacts of the units' hazardous air pollutants. These deficiencies in WEPCO's air permit application and the DEIS must be corrected before any approvals are given to the ERGS.

F. Modeling Results

The DEIS presents modeling results that are stated to be based on WEPCO's modeling work. These data are presented in DEIS Tables 7-23, 7-24, 7-25, 7-26, 7-27, and 7-28. Like the WEPCO documents from which the data are drawn, however, this modeling effort is inadequately documented, limiting its value for public comment on the modeling work. For example, no information is provided as to the emission rates used for the modeling, or how these rates were derived, either for the ERGS units or the existing units at the Oak Creek Power Plant. Nor is information presented as to the impacts at the specific locations of the residential neighborhoods that are nearest to the Plant. And, as noted above, the modeling fails to include either PM_{2.5} or HAPs such as mercury, chromium or arsenic. No information is presented as to how the ambient background data were calculated from the State's network of monitoring sites. This type of undocumented presentation is conclusory and does not provide an adequate basis for public comment and analysis. An additional flaw in the modeling work is that it fails to consider impacts to local and regional PM_{2.5} levels, including the secondary formation of PM_{2.5} in the atmosphere as a result of the ERGS' gaseous emissions.

Finally, the impact of plant emissions on short-term air quality, in particular compliance with the 3-hour SO₂ air quality standard, during Lake Michigan inversion breakup fumigation events has not been assessed. This is an important issue because the modeling that WEPCO has done shows that the Oak Creek plant will, even without considering fumigation, be perilously close to the 3-hour SO₂ standard. It is our understanding that the modeling presented in the DEIS is based on the ISC-PRIME model. This model is appropriate for many applications but may underestimate impacts from the ERGS during certain local meteorological conditions. As stated in the December 2, 2002 letter of Mr. Robert B. Miller, Chief, USEPA Region 5

Permits and Grants Section, which was copied to DNR, fumigation may occur with pollutants near a shoreline that are emitted into a cool, stable layer of air coming off of the water. This stable layer can break down in the warmer boundary layer over the land, resulting in the pollutant being mixed down to the ground and causing higher concentrations than those shown in the ISC-PRIME model that WEPCO and the DEIS are relying upon for this project. The USEPA letter states that: "Given the location of the Wisconsin Energies Oak Creek power plant relative to Lake Michigan, fumigation of the power plant emissions should be examined." We agree with this recommendation, which appears to have been ignored in preparing the DEIS. This issue should be studied further, along the lines that the USEPA suggests in its December 2, 2002 letter.

Additionally, the modeling that WEPCO has done is sensitive to the number, height and location of the stacks. The recently filed direct testimony of WEPCO's witnesses suggests that the stacks for the SCPC may be combined, moved and reduced in height. These changes may be necessary to comply with federal aviation requirements as well, at least for the two southern configurations. DNR and PSC should require that WEPCO resubmit its modeling and the underlying data so that DNR can re-evaluate anticipated emission impacts. Since air emissions are among the most significant potential environmental, health and cost impacts from this project, DNR and PSC should reissue the DEIS, including the underlying emissions assumptions, calculations, and supporting data, for further public review and comment.

Notwithstanding the deficiencies in WEPCO's modeling, the results, as presented in the DEIS, indicate that the project will consume very large percentages of the available SO₂ and PM₁₀ air resources in the vicinity of the plant. The additional projected emissions of NO_x will also exacerbate the existing severe ozone nonattainment problem, and the project will

require a large number of VOC emission offsets that would no longer be available to support future industrial growth in the region.

G. Construction-Related Air Emissions

The DEIS, very properly, discloses that the construction work required to build the ERGS project at the Oak Creek Power Plant site will result in a potential for “localized diesel emissions” that could be “very high.” DEIS at 176. The DEIS is deficient, however, in not providing any modeling results for these emissions and thereby failing to provide the data needed to assess whether the emissions will result in a contravention of NAAQS (including the PM_{2.5} NAAQS). Nor does the DEIS discuss or analyze the means by which such adverse impacts could be avoided. For example, potential mitigation measures include a requirement that the construction vehicles use low sulfur diesel fuel. More fundamentally, WEPCO should be required to select an alternative location for the project that would not require the massive earth moving that WEPCO has proposed.

COMMENTS ON CHAPTER 8 – WATER RESOURCES

A. Adverse Impacts of Once Through Cooling

WEPCO has proposed to use once through cooling for the ERGS units – a primitive technology that uses massive amounts of water and thereby results in maximum impacts to the aquatic environment. The new units are projected to use approximately two billion gallons of water per day, every day, for the next 50 years.

Cooling water intake structures cause adverse environmental impacts by pulling large numbers of fish and shellfish or their eggs into a power plant’s cooling system, a phenomenon called “entrainment.” There, the organisms are killed or injured by heat, physical stress, and by the chemicals used to clean the cooling system. Larger organisms are killed or

injured when they are trapped against screens at the front of an intake structure, a phenomenon called “impingement.”

The magnitude of fish deaths is directly related to intake volume. The more water WEPCO uses, the more organisms they will kill. As a result of WEPCO’s plans to use once through cooling, it can be expected that the new generating units will kill tens of millions of aquatic organisms – including adult and juvenile fish, shellfish, larvae, eggs and other organisms – annually. The draft EIS (at pages 206-07) identifies the problem but reflects WEPCO’s failure to provide any comprehensive analysis or evaluation of the ecological significance of these impacts to our environment. The DEIS does not provide a basic description of the current baseline aquatic environment that will be impacted by the intake or a description of the anticipated impact on that aquatic environment. As a result, the DEIS can make no meaningful statements about the ecological significance of the impact of this massive intake volume.

There are a series of well-recognized steps required for the adequate assessment of the impingement and entrainment impacts caused by cooling water intakes. These can be summarized as follows:

1. Identify the species that are living in the area and which will be likely to be impacted.
2. Identify the presence of rare and important species and assess their vulnerability to direct and indirect impacts.
3. Quantify impingement and entrainment using relevant past data and ecological surveys.

4. Assess seasonal patterns of entrainment and impingement to determine if there are particular periods of the year when mortalities of fish and other organisms will be particularly great.
5. Assess the impact on the local populations using the quantitative estimates of the number of fish and other animals killed.
6. Assess the impact on other water users such as fishermen and potential long-term impacts over the 40-50 year lifetime of the plant.

The DEIS is substantially deficient because it does not undertake the above steps adequately.

The agencies need to require WEPCO to provide all of the necessary data and information, and then take a closer look at these impacts and the mitigating measures that can be imposed to prevent them.

The DEIS does not discuss any alternatives to the once through cooling proposal. Nor does it discuss what can or will actually be done to minimize impacts. To our knowledge, WEPCO has not even begun a study of the distribution of fish eggs and larvae to determine the best locality of the intake; at any rate, the DEIS does not contain the information that is needed on this score. This information should have been included in WEPCO's initial CPCN application so that it could be considered in the DEIS. This is yet another unfortunate consequence of the PSC's hasty decision to certify WEPCO's CPCN application as complete last November.

The DEIS fails to provide any useful data on the number of organisms that will be killed by the project. Data collected in the 1970s indicates that large numbers of fish and crustaceans were being killed at that time by the existing coal-fired units at the Oak Creek Power Plant. DEIS at 188. No estimates are provided, however, as to the number of organisms that the

ERGS will kill in the current, very different Lake Michigan environment, and there is no assessment of the ecological significance of the killings.

There have been major changes in the aquatic life of the lake since the 1970s. The extent of these changes is such that using 1970s impingement and entrainment data for the ERGS is inadequate. Many species have declined as zebra mussel populations, which deprive the water of essential nutrients, have increased. A strong case can be made that the present situation is not healthy. To assume that all is well and WEPCO can kill even more fish and other organisms in Lake Michigan is inappropriate in the absence of a detailed assessment of the issue, which has not been undertaken.

The DEIS also fails to assess adequately the impacts of the construction of the intake and outfall structures. There are still considerable uncertainties about the construction methods and the impacts on the environment. Large scale dredging work will be undertaken that will have an impact on fish and invertebrates. Yet no benthic survey has been carried out to assess the communities that will be impacted.

The DEIS makes vague comments about the fact that best practices will be used but it does not explain what they will be. WEPCO has failed to demonstrate that the technology that it has proposed is the “best technology available,” as section 316(b) of the Clean Water Act requires. The DEIS does not discuss in any detail the alternatives to the primitive technology that WEPCO has proposed or assess whether better technology is, in fact, available for this project.

The use of once-through cooling for such a large plant with an offshore intake will make it very difficult to minimize impingement and entrainment mortality and preclude a finding that WEPCO is proposing to use the best technology available. In an attempt to avoid an

analysis describing the cooling water intake impact, the DEIS states that cooling water intake structure rules require “that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.” DEIS at 201. The DEIS, however, contains not the slightest hint of what will actually be done to minimize impacts. Technologies for reducing impingement and entrainment mortality do exist and are most effective for smaller volumes of water than would be extracted by the proposal. Thus, they would be far more feasible if indirect cooling was proposed. It is essential that protective technologies are designed into the intake and outfall configuration from the outset, since it has frequently been found that post-commissioning alterations are both expensive and of reduced effectiveness.

Technologies that might be applied to reduce entrainment and impingement include fish deterrent systems, barrier nets, modified Ristroph screens with fish return systems, aquatic filter barriers, wedge wire screens and variable speed pumps. Most of these cannot be applied to an offshore intake of the size proposed. Even if they could be installed, in most cases their effectiveness in such an application is unknown.

Given the massive volume of cooling water that WEPCO has proposed, which would appear to preclude adequate measures to mitigate adverse environmental impacts, WEPCO should be required to use closed cycle cooling. Closed cycle cooling would reduce the volume of intake water, and the resulting impingement and entrainment of fish and other aquatic organisms, by 97% or more. WEPCO should be required to provide all of the necessary information and analyses so that the EIS can evaluate closed cycle cooling technology as an option or compare the impacts of closed cycle cooling to the once through cooling method. This

is a significant deficiency in WEPCO's analysis and in the draft EIS that must be corrected through a supplemental analysis.

B. Thermal Discharge Impacts

Thermal pollution refers to the discharge of heated water to lakes and streams. The sudden increase in water temperatures in the area of the discharge kills aquatic organisms that are unable to adjust to quickly changing water temperatures, reduces dissolved oxygen in the water, and has other adverse impacts on aquatic ecology. WEPCO's proposal to use once through cooling at the Oak Creek Power Plant would place a significant thermal load on the area of Lake Michigan adjacent to the Plant.

The DEIS mentions the issue of thermal discharges (at pages 208-10) and presents an analysis that purports to show – by using a mathematical mixing model (CORMIX) that is less conservative than the one that DNR generally recommends – that the discharges from the new coal-fired units will meet DNR's standards. It appears, however, that there are deficiencies in the CORMIX modeling upon which the DEIS relies.

The DEIS acknowledges that “using the proposed NR 106 default mixing zone formula for lakes, the thermal discharge is predicted to nearly meet the proposed chronic temperature criteria.” DEIS at 208. In other words, using DNR's standard default assumptions, the ERGS does not meet these chronic temperature criteria.

The DEIS attempts to dismiss this major problem by introducing CORMIX model results that purport to show that there will be no problem. The CORMIX model, however, can only be used for temperatures above 4° C (39.2° F) because water at lower temperatures becomes buoyant and the model will not work. Since minimum Lake Michigan winter water temperatures

are 34° F, see DEIS at 209, the agencies are relying on a model that cannot be applied at these temperatures.

Contrary to what is stated in the DEIS, there are potential thermal pollution issues because the discharges may not meet chronic temperature criteria. Furthermore, all of the modeling appears to be for the new discharges alone. Since the existing coal-fired units will continue in operation, the thermal load of the existing units should have been included in the calculations, but the discussion in the DEIS suggests that they were not. Although the DEIS discussion is vague, it also appears that the calculations do not simultaneously consider the impact of the SCPC units and IGCC units together, since separate results are given for each and no mention is made of a cumulative impacts analysis. These are substantial deficiencies in the DEIS that must be corrected.

C. Harbor Construction Activities

If WEPCO were proposing only to construct the harbor expansions associated with the ERGS, that action alone would warrant a detailed environmental impact statement. Since this major harbor expansion is coupled with the ERGS, however, it appears to have been given short shrift in the DEIS. Again, this is due to the agencies' failure to require WEPCO to provide the necessary data in its application.

The harbor expansion will involve considerable dredging and construction work. Yet little ecological survey work is reported. Dredging can have a range of adverse effects including release of toxic chemicals from the sediments and reduction in lake oxygen levels. There is no evidence that these possibilities have been properly assessed.

D. Wetlands

The ERGS will destroy more than 15 acres of wetlands. See DEIS at Table 8-10. The DEIS notes that “[i]ncluded in the mix of wetland types are some high-quality wetlands in terms of their functional values” and that “many of these high-quality wetlands will be either partially filled in or directly adjacent to berms with a constructed height of 50 or more feet. Wetlands adjacent to these new topographic highs will most likely be impacted by sediment-laden stormwater runoff and erosion.” DEIS at 222. Additional, unspecified acreage of wetlands would also be filled or destroyed in connection with railroad corridor modifications. DEIS at 223-24. The DEIS also acknowledges significant other secondary impacts.

The DEIS is deficient in not assessing alternatives to this fill activity or discussing other mitigating measures, such as changing WEPCO’s proposed layout to avoid wetlands. It should also be noted that much of this wetlands destruction is a direct result of WEPCO’s plan to fuel the new units with coal, which has a much larger footprint due to the need for coal piles, coal-handling equipment, and ash landfills. The DEIS also fails to discuss the permitting requirements that apply to the filling of these wetlands, or even to evaluate whether such filling would be permissible under State wetland water quality standards.

COMMENTS ON CHAPTER 9 – SOLID AND HAZARDOUS WASTE

The type of fuel that is used to produce electricity has a direct and significant impact on the amount of solid waste that is generated by the power plant. The benefits of natural gas over coal are enormous in this respect, since natural gas produces virtually no ash while coal generates tens of thousands of tons of ash per year. The two new SCPC units that WEPCO has proposed to construct at Oak Creek are expected to generate more than 200,000 tons of ash each and every year.

The DEIS (at page 232) acknowledges that WEPCO does not yet have sufficient data to show that it will be able to sell or use of any of this ash or determine how much will have to be dumped in a landfill. Although the draft EIS discusses the landfills that might be used to dispose of this ash in Southeastern Wisconsin, it fails to discuss the potential adverse environmental impacts of these disposal activities, such as the formation of toxic leachate and surface water runoff that could pollute groundwater and surface water in the vicinity of the landfills, or the engineering features of these landfills that are designed to prevent these problems.

According to the DEIS (at page 229), it is contemplated that the ash will be hauled to the landfill by truck. No analysis is presented, however, of the adverse impacts of this truck traffic – and other vehicular traffic that will be associated with the new units – on local air quality and traffic congestion. Instead, the draft EIS merely estimates the number of vehicular movements associated with the new plant without modeling or otherwise evaluating their impact on local air quality or the level of transportation services provided by the existing road network.

COMMENTS ON CHAPTER 11 – COMMUNITY IMPACTS

The DEIS discloses many of the adverse community impacts of the ERGS. These include noise, construction-related impacts, increased traffic, and the adverse impacts of the coal trains. The projected 100% increase in coal train traffic, see DEIS at 349, is of particular concern, since this is an impact that the community will need to live with for decades to come. Although of shorter duration and more localized in nature, the construction-related impacts are also very significant due to the massive earth moving activities that WEPCO has proposed.

The DEIS limits its rail impact analysis to potential blockages at three crossings. However, there are numerous impacts that arise from increased coal trains, including noise, train-

related pollution, land use decisions, and a variety of quality of life impacts. These are given scant or literally no attention.

More importantly, the DEIS artificially limits its evaluation to three discrete crossings. The coal trains necessarily will pass through Racine, a densely populated urban area with numerous crossings.

Rail-related adverse impacts in Racine will include traffic congestion at crossings, as well as interference with residential and business activities. Increased coal train traffic will discourage in-fill development and redevelopment of the inner city; it will also encourage residents and businesses to move further out of the city, thereby exacerbating urban sprawl. These are some of the most significant impacts of WEPCO's proposal, and the DEIS is deficient for its complete lack of any analysis or even acknowledgement of these impacts.

For those few impacts that are discussed, the discussion is incomplete and inaccurate. For example, DEIS Table 11-31 on page 353 presents data as to the amount of time that Four Mile Road would be blocked by coal trains, but there are errors in this table that need to be corrected. The DEIS discloses that, after the ERGS is constructed, an average of 11 coal trains will enter the Oak Creek Power Plant site weekly. See DEIS Table 11-29 & 11-31. Because each train must return south on the same track, it can be assumed that there will be an average of 22 train crossings per week across Four Mile Road. Rounding downward to 21 trips per week, instead of 22, the result is an average of 3 coal trains crossing Four Mile Road each day. The average time it takes a train to cross Four Mile Road is approximately 4 minutes. DEIS at 353. So, at Four Mile Road, that should work out to a daily average of 12 minutes per day of road blockage due to the coal trains ($3 \times 4 = 12$). Since 12 minutes represents a daily

average, DEIS Table 11-31 should not identify 13 minutes as the “maximum average daily time blocked.” The concept of “maximum average” is confusing and should not be used.

DEIS Table 11-31 also errs in stating that the “total maximum average weekly time blocked” will be 56 minutes. Since the daily average will be 12 minutes, it follows that the weekly average will be 84 minutes ($12 \times 7 = 84$). The table’s reference to 56 minutes as the “maximum average” is incorrect.

It is apparent that the “maximum” time the coal trains would block Four Mile Road on any given day – or even an “average” day where only 3 trains pass the road – is greater than 13 minutes, as Table 11-31 would suggest. In fact, about once in 30 times, a coal train takes 9 minutes to cross Four Mile Road. DEIS at 352. Thus, every 10 days, on average, one of the coal trains will block Four Mile Road for 9 minutes. If the other two trains on that day block Four Mile Road for the average time of 4 minutes each, that would result in a total blockage for that day of 17 minutes. Of course, it is possible that more than 3 trains might traverse Four Mile Road on that particular day, or that the two trains – other than the 9 minute train – would block the road for an above average time period. Thus, in the course of a month, it would appear to be likely that there will be one or more days when Four Mile Road will be blocked for 20 minutes or more by coal trains, although the data presented in the DEIS are insufficient to prepare a simple probabilistic analysis.

The DEIS does not adequately assess this impact. The vehicular traffic on Four Mile Road at the railroad track crossing averages 11,300 trips per day, see DEIS Table 11-22, or an average of 8 vehicular trips per minute, each minute of the day, 24 hours a day. (Traffic is likely to be much greater than 8 trips per minute during rush hour and other peak time periods during the day, and much less than 8 trips per minute in the late evenings and early mornings.) It

is apparent that the queueing and delay when a 9 minute blockage occurs every 10 days can be substantial, especially when the blockage occurs during the periods when traffic on Four Mile Road exceeds the hourly average of 8 vehicular trips per minute.

The intersection with Four Mile Road, although significant, is but one of the numerous at grade crossings affected by the increased coal train traffic. The DEIS is deficient in omitting any evaluation of the impacts at these other crossings. Significant adverse impacts will occur all along the rail corridor south of the Oak Creek Power Plant, since the entire corridor will suffer from the 100% increase in daily coal trains. The DEIS does not take the required hard look at these impacts.

The DEIS discloses, at page 357, that the diesel engines that pull the coal trains sometimes idle near the homes south of the plant for more than 24 hours at a time. It is highly likely that a simple modeling analysis would reveal that this practice of idling diesel train engines is resulting in exceedances of the 24-hour PM₁₀ and 24-hour PM_{2.5} NAAQS at these locations, and this modeling should be performed for the final EIS. This is an unacceptable threat to the health of these residents. The practice should be prohibited. The increase in localized adverse impacts from the coal trains represents yet another adverse impact of WEPCO's proposal to use coal to fuel this project.

CONCLUSION

SC Johnson appreciates and respects the very significant efforts that the PSC and DNR made to develop this draft EIS. Notwithstanding the deficiencies in WEPCO's permit applications, the agencies seek to present information about the economic and environmental impacts of WEPCO's proposal to spend \$4.1 billion of ratepayer-backed money on another massive coal-fired power plant. The draft EIS is nevertheless deficient in a number of important

respects, as noted above. SC Johnson remains concerned that the project has not been subject to adequate analysis and, if constructed, would impose significant environmental, social and economic costs on the residents and businesses in Southeastern Wisconsin for decades to come. Accordingly, SC Johnson calls upon the PSC to: (i) determine that the WEPCO application in this proceeding is incomplete for failing to provide the necessary information to conduct a thorough and sufficient EIS; (ii) reverse its determination of completeness; and (iii) require WEPCO to resubmit its application to provide the missing information and analyses. At a minimum, a revised DEIS that corrects the existing deficiencies identified in these comments and the comments of others should be prepared and published for public review and comment before PSC and DNR proceed to the preparation and publication of the final EIS.

Dated: June 12, 2003